

CLAIMS

1. A sliding screen door, comprising:

a net being alternately folded back in a reverse direction at folding lines being in parallel to each other, configured to be capable of expansion and contraction by means of being folded back at the folding lines, and configured to be capable of open-and-close movement by horizontal pulling, and a net guide moving out from and into an interior of at least one end of a frame member attached to both ends in an open-and-close direction of the net, in response to the open-and-close movement of the net, and guiding an upper and lower end or one end of the net,

wherein the net guide is configured to mutually and flexibly connect many of guiding elements formed of an approximately U-shape composed of a bottom portion following an end portion of the net and rising wall portions following an outside face of the net by means of inserting a series of wire member into a through hole following a tip end portion of the rising wall portion, and to form a series of guide rail, wherein the net guides are serially in contact with each other at the rising wall portions of the adjoining guiding elements, when the net guide is led out along the end portion of the net being stretched, and

wherein a net-holding member being engaged with the guide rail of the net guide in a manner so as to be movable

along the guide rail for suppressing the end portion of the net to be disengaged from the net guide by directly or indirectly holding the end portion of the net is provided in the guide rail of the net guide.

2. The sliding screen door according to Claim 1, wherein a guide rail is formed of a series of concave grooves being serially in contact with each other between the adjoining guiding elements at each of an outer face and an inner face of the rising wall portion of the net guide, and wherein the holding member is configured to be movable along the guide rail by means of engaging an engaging portion formed in the net-holding member with both of the concave grooves.

3. The sliding screen door according to Claim 2, wherein the net-holding member is engaged with the rising wall portion of the guiding element in a manner so as to be rotatable in response to a direction of the net keeping a vertical posture.

4. The sliding screen door according to Claim 1, wherein a series of tip end expansion portions to be serially in contact with each other between the adjoining guiding elements is formed at a tip end of the rising wall portion of the net guide, and wherein a guide rail is thereby formed and the holding member is configured to be movable along the guide rail by means of engaging an engaging portion formed in the net-holding member with the tip end portion expansion

portion.

5. The sliding screen door according to Claim 1, wherein a series of groove-shaped guide rails being serially in contact with each other between the adjoining guiding elements is formed at an inside face of the rising wall portion of the net guide, and wherein the holding member is configured to be movable by engaging an engaging portion formed in the net-holding member with the groove-shape guide rail.

6. The sliding screen door according to any one of Claims 1 through 5, wherein a stretching string constituting a parallel movement mechanism for moving a movable doorframe provided for open-and-close operation for the net, in parallel is inserted into the net and stretched between the frame members constituting the sliding screen door, and

wherein the net-holding member provided in the net guide is configured to have a hooking hole for hooking the stretching string, and the lower end of the net is indirectly held by hooking the stretching string stretched at a lower part between the frame members with the hooking hole.

7. The sliding screen door according to Claim 6, wherein the hooking hole for inserting the stretching string in the net-holding member comprises a slit reaching an outer edge of the net-holding member, and the stretching string is

hooked to the hooking hole through the slit.

8. The sliding screen door according to any one of Claims, 1 through 5, wherein the lower end of the net is directly held by means of sandwiching the lower end portion of the net by the net-holding members provided in the net guide.

9. The sliding screen door according to Claim 6, wherein the net-holding member comprises two sheets of stretching string hooking pieces being rotatably connected at a hinge portion vertically disposed along a folding line of the net, which open and close in a manner so as to follow plane portions of both sides of the folding line along with expansion and contraction of the net, and

wherein a hooking hole for inserting the stretching string is formed at each of the stretching string hooking pieces in the net-holding member, and an engaging-and-supporting leg for movably engaging the stretching string hooking pieces with the net guide is formed in the net-holding member, and wherein a posture of the net-holding member is kept under restraint by means of at least three points, comprising the stretching string being inserted into the hooking hole in each of the stretching string hooking pieces, and the net guide being engaged with the engaging-and-supporting leg.

10. The sliding screen door according to Claim 9, wherein the hinge portion of the net-holding member is constructed

by means of integrally forming a connecting portion of the two sheets of stretching string hooking pieces formed of synthetic resin to the engaging-and-supporting leg being movably engaged with the net guide by thin-walled portion of the synthetic resin in a rotatable manner.

11. The sliding screen door according to Claim 9, wherein the hinge portion of the net-holding member comprises a rotating shaft portion at each of the connecting portions of the two sheets of the stretching string hooking pieces, and a rotatably supporting portion for rotatably supporting the rotating shaft portion provided at the engaging-and-supporting leg movably engaged with the net guide, and the rotating shaft portion is rotatably supported by the rotatably supporting portion.

12. The sliding screen door according to Claim 9, wherein the hinge portion of the net-holding member is constructed by means of rotatably and integrally forming the connecting portions of the two sheets of stretching string hooking pieces formed of synthetic resin by means of thin-walled portion formed of synthetic resin, and wherein the engaging-and-supporting leg being movably engaged with the net guide is provided at facing edge side opposite to the hinge portion of each of the stretching string hooking pieces.

13. The sliding screen door according to any one of Claims 10 through 12, wherein the hooking hole for inserting

the stretching string at the two sheets of stretching string hooking pieces comprises a slit reaching an outer edge of each of the stretching string hooking pieces, and the stretching string is hooked to the hooking hole through the slit.